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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,639	03/30/2004	Satoshi Ajiki	CU-3673 RJS	5276

26530 7590 12/31/2008

LADAS & PARRY LLP
224 SOUTH MICHIGAN AVENUE
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EXAMINER	
CUTLER, ALBERT H	

ART UNIT	PAPER NUMBER
2622	

MAIL DATE	DELIVERY MODE
12/31/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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DETAILED ACTION

1. This office action is responsive to communication filed on October 24, 2008.

Response to Arguments

2. Applicant's arguments with respect to claims 2 and 4 have been considered but are moot in view of the new ground(s) of rejection.

3. Applicant's arguments filed October 24, 2008, with respect to claim 1, 5, 6 and 8 have been fully considered but they are not persuasive.

4. Applicant argues that Segawa only discloses that the spring electrode (15) is pressingly contacted with external connection end (8b). As such, Segawa does not teach or suggest that a contact member is configured to apply lateral force toward the electrode pad as in the rejected claims. Due to the presence of this feature, it is possible to eliminate the problem where upon applying some force to the compact camera module, the module may bounce out and detach from the socket. Since Segawa does not include this feature, it cannot eliminate the foregoing problem. Applicant argues that Segawa is silent with respect to this claimed feature.

5. The Examiner respectfully disagrees. As discussed before, Segawa teaches that a contacting end is structured to contact a side of the module/electrode pad (The contacting end is part of the spring electrode (15, figure 2), as previously defined by the Examiner. This contacting end (see 15) contacts a bottom side of the module/electrode pad (6, 8, see figure 2).). Segawa teaches that this contact imposes a lateral force on the module/electrode pad (see figure 2, paragraphs 0034 and 0036). Segawa defines a pressing part (19a) as an inside edge of the lens holder (13, see figure 2), and teaches

that pressing part (19a) presses the connection terminal (8b) of the flexible board (8) against the spring electrodes (15) in order to attain an electrical and physical connection (paragraphs 0034 and 0036). Figure 2 shows that the spring electrodes (15) extend along the top and sides of the connector (12). Paragraph 0034 details that the flexible board (8) is "pressed" into contact "at the spring part" to attain an electrical connection. Paragraph 0037 details that the spring electrodes (15) are "biased in the direction opposite to the direction in which the pressing part (19a) exerts a force". As the pressing part (19a) is on the inner edge of the module (6), and the spring electrodes (15) are on the outer edge of the connector (12, see figure 2), and the spring electrodes (15) are biased opposite the direction in which the pressing part exerts a force, the spring electrodes (15) clearly provide a lateral force on the module/electrode pad. Paragraph 0036 additionally teaches that the "flexible board 8 is deformed along the outer shape of the connector 12", and that a firm connection with the spring electrodes (15) is obtained.

6. Furthermore, Segawa teaches that the socket (19) of the lens holder (13) is "forced into" the connector (12) through the flexible board (8), and that the flexible board (8) is "pressed against the **side**" of the spring electrodes (15), paragraph 0046. In addition, Segawa teaches that the module and the socket are connected via "mechanical press-contact", paragraph 0049.

7. Therefore, the rejection is maintained by the Examiner.

Information Disclosure Statement

8. The Information Disclosure Statement mailed August 22, 2008 was received and has been considered by the Examiner.

Claim Rejections - 35 USC § 102

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 1, 5, 6, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Segawa et al.(US 2002/0057468).

11. The response to Applicant's arguments, as outlined above, is hereby incorporated into the rejection of claims 1, 5, 6, 8 and 10 by reference.

Consider claim 1, Segawa et al. teach:

A mounting structure (figure 2) for installing a module ("photoelectric conversion module", 6) into a socket (See figure 4 for explanatory purposes. The top part of figure 4 is the camera module (6) including a lens (5) and an image sensor (7). The module is mounted into a socket (i.e. the bottom part of figure 4), comprising a connector (12) and a board (1).), the mounting structure (see figure 2) comprising:

an electrode pad ("flexible board", 8) formed in a lower portion of the module (see figure 2);

a plurality of contacting members (spring electrodes, 15), each having a contacting end and a springy portion (Each contacting member is a "spring electrode",

paragraph 0034. Therefore, the contacting end and the springy portion are one in the same, as the contacting end is part of a springy portion.) disposed in the socket (See figure 2, paragraph 0034. Spring electrodes (15) are connected to connectors (12) in the socket.); and

a depressed portion formed on the lower portion of the compact camera module (See figures 2 and 4. The camera module contains a depressed portion on the lower portion between the image sensor (7) and the lens holder (13). This depressed portion is where the connector (12, figure 2) is fitted.);

wherein, when the lower portion of the module is inserted into the socket, the depressed portion being shaped and configured to accommodate the springy portion of the plurality of contacting members (15) so that the lower portion of the module (6) does not make contact with the springy portion of the plurality of contacting members (15) (The lower portion (7), comprising the image sensor, of the camera module (6) is inserted into the socket (see figures 2 and 4). This portion does not make contact with the springy portion (15) of the contacting member when the camera module (6) is inserted into the socket (see figure 2). The depressed portion as originally defined by the Examiner is the "lower portion between the image sensor (7) and the lens holder (13)", figures 4 and 5. This portion, for example, is the area where numeral 16 in figure 4 makes reference to as a "pint". From figure 2, one can clearly see that the springy portion (15) is accommodated in the depressed portion, and in fact, the entire connector (12) is accommodated in the depressed portion.),

and the contacting end (see 15) being shaped and configured to contact a side of the electrode pad (8) to impose a lateral force on the electrode pad toward an inner side of the module (See paragraphs 0034-0039. Segawa et al. state that, "the terminal 8b is thereby firmly connected to the electrodes 15", paragraph 0036. The spring electrodes (15) are "**pressed** into contact with the external connection terminal 8b", paragraph 0034. As 8b is on an inner side of the contact camera module, Segawa et al. satisfy the limitation that the contacting end pushes the electrode pad to an inner side of the compact camera module. As a pressing part (19a) is on the inner edge of the module (6), and the spring electrodes (15) are on the outer edge of the connector (12, see figure 2), and the spring electrodes (15) are biased opposite the direction in which the pressing part exerts a force, the spring electrodes (15) clearly provide a lateral force on the module/electrode pad, paragraphs 0034-0037.), and

the plurality of contacting members (15) being shaped and configured to engage the module in the lateral direction (The socket (19) of the lens holder (13) is "forced into" the connector (12) through the flexible board (8), and the flexible board (8) is "pressed against the **side**" of the spring electrodes (15), paragraph 0046. The module and the socket are connected via "mechanical press-contact", paragraph 0049. As the module and the socket are connected via "mechanical press-contact", and the flexible board (8) is "pressed against the side" of the spring electrodes (15), the module is engaged by the plurality of contacting members (15) in the lateral direction.).

Consider claim 5, Segawa et al. teach:

A compact camera module set (figure 2), comprising:

a compact camera module (6) including a lens (5) and a solid image pickup device (7);

a socket (See figure 4 for explanatory purposes. The top part of figure 4 is the camera module (6) including a lens (5) and an image sensor (7). The module is mounted into a socket (i.e. the bottom part of figure 4), comprising a connector (12) and a board (1).);

an electrode pad ("flexible board", 8) formed in a lower portion of the compact camera module (6);

a contacting member (15) having a contacting end and a springy portion (The contacting member is a "spring electrode", paragraph 0034. Therefore, the contacting end and the springy portion are one in the same, as the contacting end is part of a springy portion.) disposed in the socket (See figure 2, paragraph 0034. Spring electrodes (15) are connected to connectors (12) in the socket.); and

a depressed portion formed on the lower portion of the compact camera module (See figures 2 and 4. The camera module contains a depressed portion on the lower portion between the image sensor (7) and the lens holder (13). This depressed portion is where the connector (12, figure 2) is fitted.);

wherein, when the lower portion of the compact camera module is inserted into the socket, the depressed portion being shaped and configured to accommodate the springy portion of the contacting member (15) so that the lower portion of the compact camera module (6) does not make contact with the springy portion of the contacting

member (15) (The lower portion (7), comprising the image sensor, of the camera module (6) is inserted into the socket (see figures 2 and 4). This portion does not make contact with the springy portion (15) of the contacting member when the camera module (6) is inserted into the socket (see figure 2). The depressed portion as originally defined by the Examiner is the "lower portion between the image sensor (7) and the lens holder (13)", figures 4 and 5. This portion, for example, is the area where numeral 16 in figure 4 makes reference to as a "pint". From figure 2, one can clearly see that the springy portion (15) is accommodated in the depressed portion, and in fact, the entire connector (12) is accommodated in the depressed portion.),

and the contacting end being shaped as configured to contact a side (bottom side) of the electrode pad (8) to impose a lateral force on the electrode pad toward an inner side of the compact camera module (See paragraphs 0034-0039. Segawa et al. state that, "the terminal 8b is thereby firmly connected to the electrodes 15", paragraph 0036. The spring electrodes (15) are "**pressed** into contact with the external connection terminal 8b", paragraph 0034. As 8b is on an inner side of the contact camera module, Segawa et al. satisfy the limitation that the contacting end pushes the electrode pad to an inner side of the compact camera module. As a pressing part (19a) is on the inner edge of the module (6), and the spring electrodes (15) are on the outer edge of the connector (12, see figure 2), and the spring electrodes (15) are biased opposite the direction in which the pressing part exerts a force, the spring electrodes (15) clearly provide a lateral force on the module/electrode pad, paragraphs 0034-0037.).

Furthermore, Segawa et al. teaches that the socket (19) of the lens holder (13) is "forced into" the connector (12) through the flexible board (8), and that the flexible board (8) is "pressed against the **side**" of the spring electrodes (15), paragraph 0046. In addition, Segawa teaches that the module and the socket are connected via "mechanical press-contact", paragraph 0049.

Consider claim 6, Segawa et al. teach:

A compact camera module set (figure 2), comprising:

a compact camera module (6) including a lens (5) and a solid image pickup device (7);

a socket (See figure 4 for explanatory purposes. The top part of figure 4 is the camera module (6) including a lens (5) and an image sensor (7). The module is mounted into a socket (i.e. the bottom part of figure 4), comprising a connector (12) and a board (1).);

an electrode pad ("flexible board", 8) formed in a lower portion of the compact camera module (6);

a contacting member (15) having a contacting end (The contacting member is a "spring electrode", paragraph 0034.) disposed in the socket (See figure 2, paragraph 0034. Spring electrodes (15) are connected to connectors (12) in the socket.), the contacting end (15) being shaped and configured to contact a side (bottom side) of the electrode pad (8) to impose a lateral force on the electrode pad (8) toward an inner side of the compact camera module when the lower portion of the compact camera module

is inserted into the socket (See paragraphs 0034-0039. Segawa et al. state that, "the terminal 8b is thereby firmly connected to the electrodes 15", paragraph 0036. The spring electrodes (15) are "**pressed** into contact with the external connection terminal 8b", paragraph 0034. As 8b is on an inner side of the contact camera module, Segawa et al. satisfy the limitation that the contacting end pushes the electrode pad to an inner side of the compact camera module. As a pressing part (19a) is on the inner edge of the module (6), and the spring electrodes (15) are on the outer edge of the connector (12, see figure 2), and the spring electrodes (15) are biased opposite the direction in which the pressing part exerts a force, the spring electrodes (15) clearly provide a lateral force on the module/electrode pad, paragraphs 0034-0037.); and

an engagement member (15) disposed in the socket to releasingly engage a side surface (bottom side surface) of the compact camera module (6) when the lower portion of the compact camera module is inserted into the socket (Pressure between the spring electrode (15) and the electrode pad (8b) holds (i.e. releasingly engages) the camera module (6) in the socket. See paragraphs 0034-0039.).

Furthermore, Segawa et al. teaches that the socket (19) of the lens holder (13) is "forced into" the connector (12) through the flexible board (8), and that the flexible board (8) is "pressed against the **side**" of the spring electrodes (15), paragraph 0046. In addition, Segawa teaches that the module and the socket are connected via "mechanical press-contact", paragraph 0049.

Consider claim 8, Segawa et al. teach:

A compact camera module set (figure 2), comprising:

a compact camera module (6) including a lens (5) and a solid image pickup device (7); and

a socket (See figure 4 for explanatory purposes. The top part of figure 4 is the camera module (6) including a lens (5) and an image sensor (7). The module is mounted into a socket (i.e. the bottom part of figure 4), comprising a connector (12) and a board (1).);

an electrode pad ("flexible board", 8) formed in a lower portion of the compact camera module (6);

a contacting member (15) having a contacting end (The contacting member is a "spring electrode", paragraph 0034.) disposed in the socket (See figure 2, paragraph 0034. Spring electrodes (15) are connected to connectors (12) in the socket.), the contacting end (15) being shaped and configured to contact a side (bottom side) of the electrode pad (8) to impose a lateral force on the electrode pad (8) toward an inner side of the compact camera module when the lower portion of the compact camera module is inserted into the socket (See paragraphs 0034-0039. Segawa et al. state that, "the terminal 8b is thereby firmly connected to the electrodes 15", paragraph 0036. The spring electrodes (15) are "**pressed** into contact with the external connection terminal 8b", paragraph 0034. As 8b is on an inner side of the contact camera module, Segawa et al. satisfy the limitation that the contacting end pushes the electrode pad to an inner side of the compact camera module. As a pressing part (19a) is on the inner edge of the module (6), and the spring electrodes (15) are on the outer edge of the connector

(12, see figure 2), and the spring electrodes (15) are biased opposite the direction in which the pressing part exerts a force, the spring electrodes (15) clearly provide a lateral force on the module/electrode pad, paragraphs 0034-0037.); and

a recess formed on a side surface (bottom side surface) of the lower portion of the compact camera module (See figures 2 and 4. The camera module contains a recessed portion on the lower portion between the image sensor (7) and the lens holder (13). This depressed portion is where the connector (12, figure 2) is fitted.); and

a cutout formed on the socket at a position in correspondence to the recess, the recess facing the cutout when the lower portion of the compact camera module is inserted into the socket (See figures 2 and 4. The connector (12) of the socket contains a cutout portion on the outside edge thereof, which cutout portion faces the recessed portion of the camera module, and accommodates the flexible board (8).), the recess being engagable with a de-installation tool through the cutout when the lower portion of the compact camera module is inserted into the socket (The recess and cutout are engagable with the spring electrode (15, i.e. a deinstallation tool), which connects the recessed portion and cutout portion when the camera module is inserted into the socket, paragraphs 0034-0039.).

Furthermore, Segawa et al. teaches that the socket (19) of the lens holder (13) is "forced into" the connector (12) through the flexible board (8), and that the flexible board (8) is "pressed against the **side**" of the spring electrodes (15), paragraph 0046. In addition, Segawa teaches that the module and the socket are connected via "mechanical press-contact", paragraph 0049.

Consider claim 10, and as applied to claim 6 above, Segawa further teaches that the engagement member releasingly engages a recess in the side surface (bottom side surface) of the module (Pressure between the spring electrode (15) and the electrode pad (8b) holds (i.e. releasingly engages) the camera module (6) in the socket. See paragraphs 0034-0039.).

Claim Rejections - 35 USC § 103

12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. Claims 2, 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al. in view of Shierz (US 4,734,755).

14. The response to Applicant's arguments, as outlined above, is hereby incorporated into the rejection of claims 2, 4 and 9 by reference.

Consider claim 2, Segawa et al. teach:

A mounting structure (figure 2) for installing a module ("photoelectric conversion module", 6) into a socket (See figure 4 for explanatory purposes. The top part of figure 4 is the camera module (6) including a lens (5) and an image sensor (7). The module is

mounted into a socket (i.e. the bottom part of figure 4), comprising a connector (12) and a board (1).), the mounting structure (see figure 2) comprising:

an electrode pad ("flexible board", 8) formed in a lower portion of the module (6);

a plurality of contacting members (15), each having a contacting end (The contacting member is a "spring electrode", paragraph 0034.) disposed in the socket (See figure 2, paragraph 0034. Spring electrodes (15) are connected to connectors (12) in the socket.), the contacting end (15) being shaped and configured to contact as side of the electrode pad (8) to impose a lateral force on the electrode pad toward an inner side of the module when the lower portion of the module is inserted into the socket (See paragraphs 0034-0039. Segawa et al. state that, "the terminal 8b is thereby firmly connected to the electrodes 15", paragraph 0036. The spring electrodes (15) are "**pressed** into contact with the external connection terminal 8b", paragraph 0034. As 8b is on an inner side of the contact camera module, Segawa et al. satisfy the limitation that the contacting end pushes the electrode pad to an inner side of the compact camera module. As a pressing part (19a) is on the inner edge of the module (6), and the spring electrodes (15) are on the outer edge of the connector (12, see figure 2), and the spring electrodes (15) are biased opposite the direction in which the pressing part exerts a force, the spring electrodes (15) clearly provide a lateral force on the module/electrode pad, paragraphs 0034-0037.); and

an engagement member (15) disposed in the socket to releasingly engage a side surface (bottom side surface) of the module (6) when the lower portion of the compact camera module is inserted into the socket so that the compact camera module (6) does

not separate from the socket (Pressure between the spring electrode (15) and the electrode pad (8b) holds (i.e. releasingly engages) the camera module (6) with the socket. See paragraphs 0034-0039.),

wherein the plurality of contact members (15) being shaped and configured to engage the module in the lateral direction (The socket (19) of the lens holder (13) is "forced into" the connector (12) through the flexible board (8), and the flexible board (8) is "pressed against the **side**" of the spring electrodes (15), paragraph 0046. The module and the socket are connected via "mechanical press-contact", paragraph 0049. As the module and the socket are connected via "mechanical press-contact", and the flexible board (8) is "pressed against the side" of the spring electrodes (15), the module is engaged by the plurality of contacting members (15) in the lateral direction.).

However, Segawa et al. does not explicitly teach of a hook portion being locked with a recess with elastic force of a springy portion.

Shierz is similar to Segawa et al. in that Shierz teaches of replacing solder junctions with mechanical press contacts for various beneficial reasons (column 1, lines 34-48, lines 64-69).

However, in addition to the teachings of Segawa et al., Shierz teaches that the spring electrode (control current conductor produced from spring material, 12, figure 1, column 6, lines 4-9) contains a hook portion (arc-shaped end, 12c) being locked with a recess (recess, 3a) with elastic force of a springy portion (See column 6, lines 4-9 and lines 42-44, column 7, line 59 through column 8, line 4, figure 1. The arc-shaped end

(12c) of the spring electrode (12) presses against the control electrode due to the pressure of the spring material.).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to have the spring electrodes taught by Segawa et al. contain hook portions being locked with recesses with elastic force of springy portions as taught by Shierz for the benefit of correctly positioning the contact piece and spring electrode (column 6, lines 42-44), providing a strong adhesive connection (column 7, line 66 through column 8, line 4), and enabling long-term stability (column 2, lines 34-38).

Consider claim 4, Segawa et al. teach:

A mounting structure (figure 2) for installing a module ("photoelectric conversion module", 6) into a socket (See figure 4 for explanatory purposes. The top part of figure 4 is the camera module (6) including a lens (5) and an image sensor (7). The module is mounted into a socket (i.e. the bottom part of figure 4), comprising a connector (12) and a board (1).), the mounting structure (see figure 2) comprising:

an electrode pad ("flexible board", 8) formed in a lower portion of the module (6);

a contacting member (15) having a contacting end (The contacting member is a "spring electrode", paragraph 0034.) disposed in the socket (See figure 2, paragraph 0034. Spring electrodes (15) are connected to connectors (12) in the socket.), the contacting end (15) being shaped and configured to contact a side (bottom side) of the electrode pad (8) to impose a lateral force on the electrode pad toward an inner side of

the module when the lower portion of the compact camera module is inserted into the socket (See paragraphs 0034-0039. Segawa et al. state that, "the terminal 8b is thereby firmly connected to the electrodes 15", paragraph 0036. The spring electrodes (15) are "**pressed** into contact with the external connection terminal 8b", paragraph 0034. As 8b is on an inner side of the contact camera module, Segawa et al. satisfy the limitation that the contacting end pushes the electrode pad to an inner side of the compact camera module. As a pressing part (19a) is on the inner edge of the module (6), and the spring electrodes (15) are on the outer edge of the connector (12, see figure 2), and the spring electrodes (15) are biased opposite the direction in which the pressing part exerts a force, the spring electrodes (15) clearly provide a lateral force on the module/electrode pad, paragraphs 0034-0037.);

a recess formed on a side surface (bottom side surface) of the lower portion of the module (See figures 2 and 4. The camera module contains a recessed portion on the lower portion between the image sensor (7) and the lens holder (13). This depressed portion is where the connector (12, figure 2) is fitted.); and

a cutout formed on the socket at a position in correspondence to the recess, the recess facing the cutout when the lower portion of the module is inserted into the socket (See figures 2 and 4. The connector (12) of the socket contains a cutout portion on the outside edge thereof, which cutout portion faces the recessed portion of the camera module, and accommodates the flexible board (8).),

wherein the recess is engagable with a de-installation tool through the cutout when the lower portion of the module is inserted into the socket (The recess and cutout

are engagable with the spring electrode (15, i.e. a deinstallation tool), which connects the recessed portion and cutout portion when the camera module is inserted into the socket, paragraphs 0034-0039.).

However, Segawa et al. does not explicitly teach that hook portions formed at ends of arm portions of a separation tool is engaged within recesses via cutouts of the socket.

Shierz is similar to Segawa et al. in that Shierz teaches of replacing solder junctions with mechanical press contacts for various beneficial reasons (column 1, lines 34-48, lines 64-69).

However, in addition to the teachings of Segawa et al., Shierz teaches that the spring electrode (control current conductor produced from spring material, 12, figure 1, column 6, lines 4-9) acts as a separation tool (12, figure 1) and contains a hook portion (arc-shaped end, 12c) formed at the end of an arm portion (adjoining section, 12b), wherein the hook portion (12c) is engaged with a recess (recess, 3a) with elastic force of a springy portion (See column 6, lines 4-9 and lines 42-44, column 7, line 59 through column 8, line 4, figure 1. The arc-shaped end (12c) of the spring electrode (12) presses against the control electrode due to the pressure of the spring material.).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to have the spring electrodes engaged via sockets taught by Segawa et al. contain hook portions formed at ends of arm portions being locked with recesses with elastic force of springy portions as taught by Shierz for the benefit of correctly positioning the contact piece and spring electrode (column 6, lines 42-44),

providing a strong adhesive connection (column 7, line 66 through column 8, line 4), and enabling long-term stability (column 2, lines 34-38).

Consider claim 9, and as applied to claim 2 above, Segawa further teaches that the engagement member releasingly engages a recess in the side surface (bottom side surface) of the module (Pressure between the spring electrode(15) and the electrode pad (8b) holds (i.e. releasingly engages) the camera module (6) in the socket. See paragraphs 0034-0039.).

15. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al. in view of Shierz as applied to claim 2 above, and further in view of Akimoto et al. (US 2002/0191103).

Consider claim 3, and as applied to claim 2 above, Segawa et al. teach of a socket and an engagement member. However Segawa et al. do not explicitly teach that the socket comprises a grounding contact member, or that the engagement member is a portion of the grounding contacting member.

Akimoto et al. is similar to Segawa et al. in that Akimoto et al. also teach of a camera module connected to a socket(see figure 2, paragraphs 0023-0027). Akimoto et al. also similarly teach of electrodes connected to the camera module(11, figures 1-3, paragraphs 0019, 0028, and 0029).

However, in addition to the teachings of Segawa et al., Akimoto et al. teach that one of the electrodes(11a, figures 3 and 4) is a grounding contact member(paragraphs 0028 and 0029).

The spring electrodes taught by Segawa et al. are engagement members(see claim 2 rationale). Therefore, if one of the spring electrodes of Segawa et al. is a ground electrode as taught by Akimoto et al., then the engagement member is a portion of the ground contacting member.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to include a grounding contact member as taught by Akimoto et al., as one of the spring electrodes taught by Segawa et al. for the benefit of preventing charge buildup and providing assistance in the alignment of the camera module by indicating a correct orientation to a user(Akimoto et al., paragraphs 0028 and 0029).

16. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al. in view of Akimoto et al. (US 2002/0191103).

Consider claim 7, and as applied to claim 6 above, Segawa et al. teach of a socket and an engagement member. However Segawa et al. do not explicitly teach that the socket comprises a grounding contact member, or that the engagement member is a portion of the grounding contacting member.

Akimoto et al. is similar to Segawa et al. in that Akimoto et al. also teach of a camera module connected to a socket(see figure 2, paragraphs 0023-0027). Akimoto et al. also similarly teach of electrodes connected to the camera module(11, figures 1-3, paragraphs 0019, 0028, and 0029).

However, in addition to the teachings of Segawa et al., Akimoto et al. teach that one of the electrodes(11a, figures 3 and 4) is a grounding contact member(paragraphs 0028 and 0029).

The spring electrodes taught by Segawa et al. are engagement members(see claim 6 rationale). Therefore, if one of the spring electrodes of Segawa et al. is a ground electrode as taught by Akimoto et al., then the engagement member is a portion of the ground contacting member.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to include a grounding contact member as taught by Akimoto et al., as one of the spring electrodes taught by Segawa et al. for the benefit of preventing charge buildup and providing assistance in the alignment of the camera module by indicating a correct orientation to a user(Akimoto et al., paragraphs 0028 and 0029).

Conclusion

17. Any objections made to the claims by the Examiner are hereby removed in view of Applicant's response.

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALBERT H. CUTLER whose telephone number is (571)270-1460. The examiner can normally be reached on Mon-Thu (9:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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